

**Abstract**

The present invention provides cost-effective synthesizer and transceiver architecture having an instant channel switching for multiple wireless/wire network communication standards such as IEEE802.11 a/b/g, Bluetooth, WCDMA, GSM QuadBand, CDMA dualband, GPS. This invention also enables multiple communication standards or multiple channels in one standard share the same fundamental frequency generators. This allows for a method of operating the transceiver and synthesizer, methods and apparatus of establishing or reestablishing a instant or simultaneously channel switching lock condition in a communication standard or among different communication standards.